

Patent Abstracts of Japan

PUBLICATION NUMBER : 10321228

PUBLICATION DATE : 04-12-98

APPLICATION DATE : 16-05-97

APPLICATION NUMBER : 09143268

APPLICANT : NIPPON TELEGR & TELEPH CORP <NTT>;

INVENTOR : YAMAKI JUNICHI;

INT.CL. : H01M 4/58 H01M 4/02 H01M 4/04 H01M 10/40

TITLE : POSITIVE ELECTRODE ACTIVE MATERIAL FOR LITHIUM BATTERY, ITS
MANUFACTURE, AND LITHIUM BATTERY USING IT

ABSTRACT : PROBLEM TO BE SOLVED: To increase the discharge capacity and enhance the safety without generating a heat in the full charge of a battery by regulating the lithium occupying ratio in the transition metal main body layer of the layered structure of a positive electrode active material consisting of a composite oxide mainly composed of Li and Ni to a specified value or less.

SOLUTION: A positive electrode active material has a composition of a complex oxide represented by the formula $\text{Li}_x\text{Ni}_{1-y}\text{M}_y\text{O}_z$. In the formula, (x), (y), and (z) represent $0 \leq x \leq 1.1$, $0 \leq y \leq 0.5$, and $1.8 \leq z \leq 2.2$, respectively, and M represents a transition metal other than Ni or at least one element selected from elements belonging to the IVB, VB, VIB, and VIIB groups. The Li occupying ratio in the transition metal main body layer in the layered structure of this composite oxide is limited to less than 0.5%. The element M is selected from silicon, titanium, vanadium, chromium, manganese, iron, germanium, zirconium, niobium, molybdenum, ruthenium, palladium, tin, tellurium, hafnium, tungsten, iridium, platinum and lead.

COPYRIGHT: (C)1998,JPO